2-10 of applicants' specification. Newly added claims 13-20 find corresponding description at page 7, lines 11-25. Finally, new claims 21-32 find support at page 8, lines 19-30 of applicants' specification.

The rejection under 35 USC 112, insofar as it might be deemed applicable to claim 4, is respectfully traversed. Claim 1 as amended in applicants' previous response defined the "light diffusion <u>sheet</u>," not the "light diffusion <u>layer</u>," as having "opposing exposed surfaces." Accordingly, the fact that the light diffusion <u>layer</u> was further defined as being formed on a transparent substrate, noted by the examiner, was not inconsistent with the definition of the "light diffusion <u>sheet</u>" as having two "exposed surfaces." The word "exposed" as previously used in claim 1 and as now used in claim 4 is intended to have its ordinary dictionary meaning, i.e., unprotected or uncovered, in other words, the outermost surface of the "light diffusion sheet."

The five different rejections for obviousness are respectfully traversed. The first, third and fourth obviousness rejections apply Konno et al - U.S. 5,607,764 as a secondary reference and the second obviousness rejection is based upon Konno et al alone. The examiner cites Konno et al in support of his allegation that "here the diffusion properties listed are simply those which everyone tries to optimize..." The fifth and last rejection for obviousness is stated as being based on Yano - U.S. 5,706,065. However, a reading of the explanation of the fifth rejection reveals that the examiner is relying upon the teachings of Konno et al in the same manner Konno et al is applied in the other rejections.

Although the teachings of Konno et al are combined with those of a primary reference in four of five of the rejections, only the teachings of Konno et al are discussed by the examiner. Accordingly, it is unclear from the examiner's remarks the extent to which, if at all, the examiner is applying the teachings of Maekawa, Satoh et al, Takashima et al and Yano. The examiner states that, in explanation of each of the rejections, that "Konno evidences this [the allegation that "the diffusion of properties listed are simply those which everyone tries to optimize"] with discussion of luminance and visibility, two alternative descriptions of the same characteristics," citing column 5, lines 16-65. Parenthetically, contrary to the examiner's statement, Konno does not use the terms "luminance" and "visibility" as "two alternative descriptions of the same characteristics." At column 5, lines 16-65, cited by the examiner, it can be seen that "luminance" and "visibility" are determined by Konno et al using different apparatus and are rated according to different standards. As taught by Konno et al at column 3, lines 1-12, what they regard as "luminance" is a function of the weight ratio of the polymer particles to the polymer binder. As further taught at column 3, lines 13-21 of Konno et al, the "viewing nature or visibility" is a function of the optical diffusion power capability for hiding dots of a light guiding plate. As Konno et al further describe there, a matting agent is added "in order to improve the visibility."

Perhaps more important here is the fact that "distinctness of image" recited in the pending claims is a property quite unlike the "visibility" taught by Konno et al. As noted above, the teaching of Konno et al at column 3, lines 14-17 defines "visibility" as an optical diffusing power to <u>hide dots of a light guiding plate</u>. On the contrary, "distinctness of image" is an art recognized term, i.e., recognized as a parameter indicating how clearly (distinguishably) images transmitted

to the diffusing sheet can be seen. Accordingly, "distinctness of image" and what Konno et al refer to as "visibility" are rather contrary properties. See the definition of "distinctness of image" at column 8, lines 51-62 of U.S. 6,164,785 ("Maekawa", of record here), which conforms to applicants' teaching at page 15, lines 31-35.

The examiner asserts that the pending claims do no more than recite diffusion of properties "which everyone tries to optimize." However, the examiner cites no reference which tries to simultaneously optimize the parameters recited by applicants' claims. As noted above, Konno et al, which is the only reference discussed in any detail by the examiner, does not disclose "distinctness of image." Further, the declaration of Mr. Ohnuma, submitted herewith establishes that Konno et al do not "inherently" lead to a combination of properties as recited by the claims pending here. Moreover, significant obstacles exist to simultaneous optimization of high haze, i.e., "haze of 80.0% or more", and high distinctness of image, i.e., "distinctness of transmission image of 25% or more." The basic problem which faced the present inventors (and other workers) was that it is difficult to simultaneously obtain high haze and high distinctness of image because the distinctness of image tends to be lowered as the haze is increased in a conventional diffuser. Simultaneous achievement of values for haze and distinctness of image within the ranges claimed here, is dependent on both the nature of the particles included in the diffusion layer and on the thickness of the diffusion layer, as can be seen in the data reported by Mr. Ohnuma in his declaration. Thus, both the nature of the particles and the thickness of the diffusing layer must be taken into consideration in producing a light diffusion sheet as defined by the pending claims. The references cited by the examiner do not disclose an optimized

combination of these parameters which would yield anything within the scope of applicants' claims.

Specifically, the rejection for obviousness over Maekawa in view of Konno et al is traversed because the antiglaring layer of Maekawa includes particles having an average particle diameter which is too small to obtain properties within the ranges recited by claim 1 here and because modification of Maekawa in accordance with the teachings of Konno et al would not lead to a combination of parameters recited by the claims here. Again, the declaration of Mr. Ohnuma is relied upon regarding the deficiencies of Konno et al. Maekawa teaches an anti-glare film having two types of "transparent particles" as well as "resin beads." The "primary particle diameter" for the transparent particles is 10 to 20 nm (0.1-0.2 micron) (column 3, lines 23-25). The secondary particles have an average diameter of 1.0 to 1.5 microns (column 3, lines 26-28) and the resin beads are described as having an average particle diameter of 2 to 10 microns (column 3, lines 6-10). None of these particle sizes is suggestive of the 16-30 micron range of claims 7-9 and 16-18 or the 18-28 micron range of claims 10-12, 19 and 20. Further, Maekawa teach in column 3 that such sizes are critical to providing the qualities desired for their antiglaring films. In contradistinction, as taught at page 7, lines 4-6 of applicants' specification: "If the mean particle diameter is less than 16 microns it becomes difficult to obtain both of a high distinctness of transmission image and high haze."

The rejection for obviousness over Konno et al alone, is respectfully traversed for the reasons given above. Specifically, as noted above, Konno et al neither disclose nor allude to any

parameter which is the equivalent of applicants' "distinctness of transmission image." Further, as demonstrated by Mr. Ohnuma, one skilled in the art would not be led to anything within the scope of claim 1 here by following the teachings of Konno et al. In the Ohnuma declaration, the graph was obtained by changing the thickness of the coating of Example 1 of Konno, thus changing the amount of coating mixture per unit area of the substrate, i.e., in the same manner as in Example 1 of Konno et al. Haze and distinctiveness of image were determined for each of the different coating thicknesses or amounts of coating per unit area, i.e., the abscissa of the graph. Note in Mr. Ohnuma's graph that the haze is represented by the dash line and the distinctness of image is indicated by the solid line and that the solid black line parallel to the abscissa represents the limits of applicants' claim 1, i.e., satisfaction of the claim 1 parameters for haze and distinctness of image requires that both of those values be above that parallel line representing 80% haze and 25% distinctness of image. Applying the data for sample numbers 1-6 of Table 1 of Konno et al (samples 1-6 represent the formulation of Example 1), it can be seen that the narrow area where applicants' claim 1 would have been satisfied for both distinctness of image and haze falls within a very narrow range between sample numbers 2 and 3 of Konno et al. Konno et al's thickness giving 14.76 g/m^2 (sample no. 3) represents the closest prior art for any of the Konno et al examples and applying that 14.76 to the graph of Mr. Ohnuma's declaration shows that it is far removed from that narrow area which would have met applicants' claim 1. Thus, it can be accurately said that the teachings of Konno et al would not have led one skilled in the art to the discovery of that very narrow range which would have met applicants' claim.

Likewise, the rejection for obviousness over Satoh in view of Konno et al is traversed. The anti-reflection film of Satoh has a thickness of 100-200 nm (0.1-0.2 microns) and contains silica particles having a particle diameter of 50-100 nm (0.05-0.1 microns) (column 7, lines 41, 42), both of which are too small to attain a product having properties within the ranges recited by claim 1 here. In point of fact, the anti-reflection film of Satoh cannot be used for a diffuser of a back light because the content of the particles is too small to produce an effective diffuser. Again, attention is directed to applicants' teaching at page 7, lines 4-6: "If the mean particle diameter is less than 16 microns it becomes difficult to obtain both a high distinctness of transmission image and high haze." Further, for the reasons noted above, modification in accordance with the teachings of Konno et al would not have led to anything within the scope of applicants' claim 1.

The rejection for obviousness over "Takashima et al - U.S. 5,903,391 in view of Konno et al, U.S. 5,607,764" will be treated as a rejection over Toshima et al in view of Konno et al. There is no "Takashima et al" reference of record and the inventorship for U.S. 5,903,391 is Toshima et al. As explained by Toshima et al at column 2, lines 25-36, their invention depends to a large extent on the surface "undulation" to produce the desired degree of diffusion. That "undulation" is produced by Toshima et al by having "at least a part of the light diffusive agent protrude from the surface of the light diffusion layer," quoting from column 2, lines 32-34. Toshima et al go on to teach at column 2, lines 34-36: "As a result, only a small amount of the light diffusive agent can improve the light diffusability and, therefore, enhance the light transmittance." Thus, the invention of Toshima et al seeks to reduce the amount of light

diffusive agent. As taught at column 4, line 62 to column 5, line 4 of Toshima et al, the light diffusive agent particles are 100% by weight or less based on the weight of the resin, preferably 50% by weight. Although the claims of Toshima et al specify that the light diffusion agent may have an average particle size of 1 to 30 microns, the largest particle size used in the working examples appears to have been the 6 microns (column 8, line 39) and the maximum thickness of any diffusion layer disclosed was 3.4 microns. Thus, the parameters taught by Toshima et al in terms of percentage of light diffusing particles in the resin binder and the thickness of the light diffusion layer are far removed from what applicants teach to be those ranges for such parameters necessary to achieve values for both haze and distinctness of transmission image as claimed. Again, no modification in light of Konno et al would lead to the claimed invention because Konno et al do not in any way discuss the parameters recited by claim 1, much less provide those skilled in the art with guidelines as to how to achieve a product with such parameters within the ranges of applicants' claim 1.

Finally, the rejection for obviousness based on Yano in view of Konno et al is traversed. The light diffuser of Yano attains diffusion by providing a plurality of differing layers and controls the extent of diffusion by varying the number of such layers. As such, Yano's light diffuser is designed based on an entirely different concept than that of Konno et al. In contradistinction, Konno et al varies diffusion by suitably changing the ratio of particles 4a (completely buried in the synthetic resin) and particles 4b (partially buried in the synthetic resin) as taught at column 3, lines 49-63. Thus, the concepts and structures of Konno et al and Yano are very different and, even if Konno et al contained teachings which would have led one skilled

in the art to applicants' invention, there would be no basis for combining features of Konno et al with those of Yano.

In conclusion, it is respectfully requested that the examiner reconsider the rejections of record in light of the present amendments and the foregoing comments.

Respectfully submitted,

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1. (Twice amended) A light diffusion sheet [having opposing exposed surfaces and] comprising a light diffusion layer formed on a transparent substrate and containing a binder resin and resin particles, said light diffusion layer having a first surface in contact with said substrate and said resin particles imparting unevenness to a second surface of said light diffusion layer, opposite said first surface, [that impart uneveness to one of said exposed surfaces,] wherein the light diffusion sheet has a total light transmission of 70.0% or more, haze of 80.0% or more, and a distinctness of transmission image of 25.0% or more.

85 yen/15-inch sheet for the light diffusion sheet and 850 yen/15-inch sheet for the prism sheet were used for the above calculation. The calculation results were shown in Table 1.

[Evaluation of light-diffusing property]

In the evaluation of the luminance improvement, invisibility of light diffusion pattern of the light conduction plates was simultaneously evaluated by visual inspection. The results are indicated by " when the light diffusion pattern could not be observed, and with "×" when the light diffusion pattern could be observed. The evaluation results are shown in Table 1.

[Measurement of total light transmission and haze of light diffusion sheet]

Total light transmission and haze of the light diffusion sheets 1 obtained in Examples 1-3 and Comparative Examples 1-3 were measured using a haze meter (HGM-2K: Suga Test Instruments Co., Ltd.).

Separately, each uneven surface of the light diffusion layer 2 of the light diffusion sheets 1 obtained in Examples 1-3 and Comparative Examples 1-3 was filled up with a resin solution, which was prepared using the same resin solutions for light diffusion layer (a)-(f) except that resin particles were removed therefrom. Haze of the light diffusion sheets 1 with the thus smoothened surface were measured similarly to obtain internal haze of the light diffusion sheets 1.

The total light transmission and haze were measured by applying light from the back surfaces of the light diffusion sheets 1. The measurement results are shown in Table 2.

[Distinctness of transmission image]

For the light diffusion sheets 1 obtained in Examples 1-3 and Comparative Examples 1-3, a distinctness of transmission image through optical comb of 2.0 mm was measured using an image clarity meter (ICM-1DP: Suga Test Instruments Co., Ltd.). The measurement results are shown in Table 2.

[Refractive indices of resin binder and resin particles]